IN THE CIRCUIT COURT OF SAINT LOUIS COUNTY
STATE OF MISSOURI

SOUTHAMPTON COMMUNITY HEALTHCARE, formerly known as SOUTHAMPTON HEALTHCARE, INC.; KELLY STORCK; A.S., as next friend and on behalf of her minor child R.S.; N.F., as next friend and on behalf of his minor child A.F.; and LOGAN CASEY;

Plaintiffs,

v.

ANDREW BAILEY, in his official capacity as Attorney General for the State of Missouri, 207 West High Street, Jefferson City, MO 65102,

Defendant.

Case No. _____

Division: _____

EXPERT DECLARATION OF DANIEL SHUMER, M.D.

I, Daniel Shumer, M.D., hereby declare and state as follows:

1. I am over 18 years of age, of sound mind, and in all respects competent to testify.

2. I have been retained by counsel for Plaintiffs as an expert in connection with the above-captioned litigation.

3. I have actual knowledge of the matters stated herein. If called to testify in this matter, I would testify truthfully and based on my expert opinion.

I. BACKGROUND AND QUALIFICATIONS

A. Qualifications

4. I am a Pediatric Endocrinologist, Associate Professor of Pediatrics, and the Clinical Director of the Child and Adolescent Gender Clinic at Mott Children's Hospital at Michigan

Medicine. I am also the Medical Director of the Comprehensive Gender Services Program at Michigan Medicine, University of Michigan.

5. I am Board Certified in Pediatrics and Pediatric Endocrinology by the American Board of Pediatrics and licensed to practice medicine in the state of Michigan.

6. I received my medical degree from Northwestern University in 2008. After completing a Residency in Pediatrics at Vermont Children's Hospital, I began a Fellowship in Pediatric Endocrinology at Harvard University's Boston Children's Hospital. Concurrent with the Fellowship, I completed a Master of Public Health from Harvard's T.H. Chan School of Public Health. I completed both the Fellowship and the MPH degree in 2015.

7. I have extensive experience in working with and treating children and adolescents with endocrine conditions including differences in sex development (DSD) (also referred to as intersex conditions), gender dysphoria, type 1 diabetes, thyroid disorders, growth problems, and delayed or precocious puberty. I have been treating patients with gender dysphoria since 2015.

8. A major focus of my clinical, teaching, and research work pertains to the assessment and management of transgender adolescents.

9. I have published extensively on the topic of gender identity in pediatrics and the treatment of gender dysphoria, as well as reviewed the peer-reviewed literature concerning medical treatments for gender dysphoria, the current standards of care the treatment of gender dysphoria, and research articles on a variety of topics with a focus on mental health in transgender adolescents.

10. I am involved in education of medical trainees. I am the Fellowship Director in the Division of Pediatric Endocrinology, Education Lead for the Division of Pediatric Endocrinology, and Course Director for a medical student elective in Transgender Medicine. My additional

academic duties as an Associate Professor include teaching several lectures, including those entitled "Puberty," "Transgender Medicine," and "Pediatric Growth and Development."

11. As a Fellow at Harvard, I was mentored by Dr. Norman Spack. Dr. Spack established the Gender Management Services Clinic (GeMS) at Boston Children's Hospital. While working and training at GeMS, I became a clinical expert in the field of transgender medicine within Pediatric Endocrinology and began conducting research on gender identity, gender dysphoria, and the evaluation and management of gender dysphoria in children and adolescents.

12. Based on my work at GeMS, I was recruited to establish a similar program assessing and treating gender diverse and transgender children and adolescents at the C.S. Mott Children's Hospital in Ann Arbor. In October 2015, I founded the hospital's Child and Adolescent Gender Services Clinic.

13. The Child and Adolescent Gender Services Clinic has treated over 600 patients since its founding. The clinic provides comprehensive assessment, and when appropriate, treatment with pubertal suppression and hormonal therapies, to patients diagnosed with gender dysphoria. I have personally evaluated and treated over 400 patients with gender dysphoria. The majority of the patients receiving care range between 10 and 21 years old. Most patients attending clinic live in Michigan or Ohio. As the Clinical Director, I oversee the clinical practice, which currently includes 4 physicians (including 1 psychiatrist), 1 nurse practitioner, 2 social workers, 1 research coordinator, as well as nursing and administrative staff. I also actively conduct research related to transgender medicine, gender dysphoria treatment, and mental health concerns specific to transgender youth.

14. I also provide care in in the Differences/Disorders of Sex Development (DSD) Clinic at Michigan Medicine at Mott Children's Hospital. The DSD Clinic is a multidisciplinary

clinic focused on providing care to infants and children with differences in the typical path of sex development, which may be influence by the arrangement of sex chromosomes, the functioning of our gonads (i.e., testes, ovaries), and our bodies' response to hormones. The clinic is comprised of members from Pediatric Endocrinology, Genetics, Psychology, Urology, Gynecology, Surgery, and Social Work. In this clinic I have assessed and treated over 100 patients with DSD.

15. In my role as Medical Director of the Comprehensive Gender Services Program (CGSP), I lead Michigan Medicine's broader efforts related to transgender services. CGSP is comprised of providers from across the health system including pediatric care, adult hormone provision, gynecologic services, adult surgical services, speech/language therapy, mental health services, and primary care. I run monthly meetings with representatives from these areas to help coordinate communication between Departments. I coordinate strategic planning aimed to improve care within the health system related to our transgender population. I also serve as the medical representative for CGSP in discussions with health system administrators and outside entities.

16. I have authored numerous peer-reviewed articles related to treatment of transgender youth. I have also co-authored chapters of medical textbooks related to medical management of transgender patients. I have been invited to speak at numerous hospitals, clinics, and conferences on topics related to clinical care and standards for treating transgender children and youth.

17. The information provided regarding my professional background, experiences, publications, and presentations is detailed in my curriculum vitae, a true and correct copy of the most up-to-date version of which is attached as **Exhibit A**.

B. Prior Testimony

18. In the past four years, I have been retained as an expert and provided testimony at trial or by deposition in the following cases: *Dekker v. Weida*, No. 4:22-cv-00325-RH-MAF (N.D. Fla.); *Roe et al v. Utah High School Activities Association et al* (Third District Court in and for Salt Lake County, UT); and *Menefee v. City of Huntsville Bd. of Educ.*, No. 5:18-cv-01481 (N.D. Ala.). I also provided expert witness testimony on behalf of a parent in a custody dispute involving a transgender child in the following case: *In the Interest of Younger*, No. DF-15-09887 (Dallas County, Texas).

C. Compensation

19. I am being compensated at an hourly rate for the actual time that I devote to this case, at the rate of $350 per hour for any review of records, preparation of reports, declarations, and deposition and trial testimony. My compensation does not depend on the outcome of this litigation, the opinions that I express, or the testimony that I provide.

D. Bases for Opinions

20. This declaration sets forth my opinions in this case and the bases for my opinions.

21. In preparing this declaration, I reviewed the text of the emergency rule "Experimental Interventions to Treat Gender Dysphoria," 15 CSR 60-17.010, promulgated by the Missouri Attorney General (the "Emergency Rule").

22. I have also reviewed the materials listed in the bibliography attached as **Exhibit B** to this declaration, as well as the materials listed within my curriculum vitae, which is attached as **Exhibit A**. The sources cited therein include authoritative, scientific peer-reviewed publications. They include the documents specifically cited as supportive examples in particular sections of this declaration. I may rely on these materials as additional support for my opinions.

23. In addition, I have relied on my scientific education, training, and years of clinical and research experience, and my knowledge of the scientific literature in the pertinent fields.

24. The materials I have relied upon in preparing this declaration are the same types of materials that experts in my field of study regularly rely upon when forming opinions on these subjects.

25. To the best of my knowledge, I have not met or spoken with the plaintiffs.

26. I may wish to supplement or revise these opinions or the bases for them due to new scientific research or publications or in response to statements and issues that may arise in my area of expertise.

II. EXPERT OPINIONS

A. MEDICAL AND SCIENTIFIC BACKGROUND ON SEX AND GENDER IDENTITY

27. *Sex* is comprised of several components, including, among others, internal reproductive organs, external genitalia, chromosomes, hormones, gender identity, and secondary sex characteristics (IOM, 2011).

28. *Gender identity* is the medical term for a person's internal, innate sense of belonging to a particular sex. Everyone has a gender identity. Diversity of gender identity and incongruence between assigned sex at birth and gender identity are naturally occurring sources of human biological diversity (IOM, 2011). The term *transgender* refers to individuals whose gender identity does not align with their sex assigned at birth (Shumer, et al., 2013).

29. The terms *gender role* and *gender identity* refer to different things. *Gender roles* are behaviors, attitudes, and personality traits that a particular society considers masculine or feminine, or associates with male or female social roles. For example, the convention that girls wear pink and have longer hair, or that boys wear blue and have shorter hair, are socially

constructed gender roles from a particular culture and historical period. By contrast, *gender identity* does not refer to socially contingent behaviors, attitudes, or personality traits. It is an internal and largely biological phenomenon, as reviewed below. Living consistent with one's gender identity is critical to the health and well-being of any person, including transgender people (Hidalgo, et al., 2013; Shumer, et al., 2013; White Hughto, et al., 2015).

30. A person's understanding of their gender identity may evolve over time in the natural course of their life, however, attempts to "cure" transgender individuals by forcing their gender identity into alignment with their birth sex (sometimes descried as "conversion therapy") has been found to be both harmful and ineffective. In one study, transgender adults who recall previous attempts from healthcare professionals to alter their gender identity reported an increase in lifetime suicide attempts and higher rates of severe psychological distress in the present (Turban, et al., 2020a). In another study, exposure to these types of attempts were found to increase the likelihood that a transgender adolescent will attempt suicide by 55% and more than double the risk for running away from home (Campbell, et al., 2002). Those practices have been denounced as unethical by all major professional associations of medical and mental health professionals, such as the American Medical Association, the American Academy of Pediatrics, the American Psychiatric Association, and the American Psychological Association, among others (Fish, et al., 2022).

31. Scientific research and medical literature across disciplines demonstrates that gender identity, like other components of sex, has a strong biological foundation. For example, there are numerous studies detailing the similarities in the brain structures of transgender and non-transgender people with the same gender identity (Luders, et al., 2009; Rametti, et al., 2011; Berglund, et al., 2008; Savic, et al., 2011). In one such study, the volume of the bed nucleus of the

stria terminalis (a collection of cells in the central brain) in transgender women was equivalent to the volume found in cisgender women (Chung, et al., 2002).

32. There are also studies highlighting the genetic components of gender identity. Twin studies are a helpful way to understand genetic influences on human diversity. Identical twins share the same DNA, while fraternal twins share roughly 50% of the same DNA, however both types of twins share the same environment. Therefore, studies comparing differences between identical and fraternal twin pairs can help isolate the genetic contribution of human characteristics. Twin studies have shown that if an identical twin is transgender, the other twin is much more likely to be transgender compared to fraternal twins, a finding which points to genetic underpinnings to gender identity development (Heylens, et al., 2012).

33. There is also ongoing research on how differences in fetal exposures to hormones may influence gender identity. This influence can be examined by studying a medical condition called congenital adrenal hyperplasia. Female fetuses affected by congenital adrenal hyperplasia produce much higher levels of testosterone compared to fetuses without the condition. While most females with congenital adrenal hyperplasia have a female gender identity in adulthood, the percentage of those with gender dysphoria is higher than that of the general population. This suggests that fetal hormone exposures contribute to the later development of gender identity (Dessens, et al, 2005).

34. There has also been research examining specific genetic differences that appear associated with gender identity formation (Rosenthal, 2014). For example, one study examining differences in the estrogen receptor gene among transgender women and cisgender male controls found that the transgender individuals were more likely to have a genetic difference in this gene (Henningsson, et al., 2005).

35. The above studies are representative examples of scientific research demonstrating biological influences on gender identity. Gender identity, like other complex human characteristics, is rooted in biology with important contributions from neuroanatomic, genetic and hormonal variation (Roselli, 2018).

B. RATIONALE FOR MEDICAL TREATMENT OF GENDER DYSPHORIA IN ADOLECENTS AND ADULTS

36. All medical interventions, including treatment for gender dysphoria, require rigorous study and evidence base.

37. There are several studies demonstrating positive results of gender-affirming care in adolescents and adults (de Vries, et al., 2014; de Vries, et al., 2011; Green, et al., 2022; Smith, et al., 2005; Turban, et al., 2022). These studies consistently demonstrate improvement of gender dysphoria with associated improvement of psychological functioning. A 2014 long-term follow-up study following patients from early adolescence through young adulthood showed that gender-affirming treatment allowed transgender adolescents to make age-appropriate developmental transitions while living as their affirmed gender with positive outcomes as young adults (de Vries, et al., 2014). More recently, Green et al. (2022) describe that gender-affirming hormone therapy is correlated with reduced rates of depression and suicidality among transgender adolescents. Turban et al. (2022) documented that access to gender-affirming hormone therapy in adolescence is associated with favorable mental health outcomes in adulthood, when compared to individuals who desired but could not access hormonal interventions.

C. ASSESSMENT OF GENDER DYSPHORIA IN CHILDREN, ADOLESCENTS, AND ADULTS

38. Due to the incongruence between their assigned sex and gender identity, transgender people experience varying degrees of gender dysphoria, a serious medical condition

defined in both the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5 TR) (APA, 2022). *Gender Dysphoria* is defined as an incongruence between a patient's assigned sex and their gender identity present for at least six months, which causes clinically important distress in the person's life. This distress is further defined as impairment in social, occupational, or other important areas of functioning (APA, 2022). Additional features may include a strong desire to be rid of one's primary or secondary sex characteristics, a strong desire to be treated as a member of the identified gender, or a strong conviction that one has the typical feelings of identified gender (APA, 2022).

39. The World Health Organization's International Classification of Diseases (ICD), the diagnostic and coding compendia for mental health and medical professionals, codifies Gender Incongruence as the diagnosis resulting from the incongruity between one's gender identity and sex assigned at birth. The Gender Incongruence diagnosis is part of a new "Conditions related to sexual health" chapter in the ICD-11, which is the most recent iteration of the ICD published in 2019 (Costa, et al., 2015; WHO, 2019). This reflects evidence that transgender and gender diverse identities are not conditions of mental ill health and classifying them as such can cause enormous stigma.

40. In children and adolescents, the diagnosis of gender dysphoria is made by a health provider including but not limited to a psychiatrist, psychologist, social worker, or therapist with expertise in gender identity concerns. It is recommended that children and adolescents diagnosed with gender dysphoria engage with a multidisciplinary team of mental health and medical professionals to formulate a treatment plan, in coordination with the parent(s) or guardian(s), with a goal of reduction of gender dysphoria. The *Standards of Care for the Health of Transgender and Gender Diverse People, Version 8* ("SOC 8"), published by the World Professional Association

for Transgender Health (WPATH), provides guidance to providers on how to provide comprehensive assessment and care to this patient population based on medical evidence. These standards recommend involving relevant disciplines, including mental health and medical professionals, to reach a decision with families about whether medical interventions are appropriate and remain indicated through the course of treatment. Multidisciplinary clinics, such as the Child and Adolescent Gender Clinic where I practice, have structured their programs around this model, as guided by the WPATH SOC.

41. In transgender adults, the WPATH SOC recommends that a health care provider assessing and treating a transgender patient should ensure diagnostic criteria are met prior to initiating gender-affirming treatments and ensure that any health conditions that could negatively impact the outcome of treatment are assessed, with risks and benefits discussed, before a decision is made regarding treatment. The capacity of the adult. to consent for the specific treatment should be confirmed prior to initiation (Coleman, et al., 2022).

D. EVIDENCE-BASED CLINICAL PRACTICE GUIDELINES FOR THE TREATMENT OF GENDER DYSPHORIA IN CHILDREN, ADOLESCENTS AND ADULTS

42. The goal of any intervention for gender dysphoria is to reduce dysphoria, improve functioning, and prevent the harms caused by untreated gender dysphoria.

43. Gender dysphoria is highly treatable and can be effectively managed. If left untreated, however, it can result in severe anxiety and depression, eating disorders, substance abuse, self-harm, and suicidality (Reisner, et al., 2015).

44. Based on longitudinal data, and my own clinical experience, when transgender adolescents are provided with appropriate medical treatment and have parental and social support, they are more likely to thrive and grow into healthy adults (de Vries, et al., 2014).

45. In children and adolescents, a comprehensive biopsychosocial assessment is typically the first step in evaluation, performed by a mental health provider with experience in gender identity. The goals of this assessment are to develop a deep understanding of the young person's experience with gender identity, to consider whether the child or adolescent meets criteria for a diagnosis of gender dysphoria, and to understand what options may be desired and helpful for the adolescent (Coleman, et al., 2022; Coleman, et al., 2012; Hembree, et al., 2017; Hembree, et al., 2009).

46. For children younger than pubertal age, the only recommended treatments do not involve medications. For adolescents, additional treatments involving medications may be appropriate.

47. For pre-pubertal children with gender dysphoria, treatments may include supportive therapy, encouraging support from loved ones, and assisting the young person through elements of a social transition. Social transition may include adopting a new name and pronouns, appearance, and clothing, and correcting identity documents.

48. Options for treatment after the onset of puberty include the use of gonadotropin-releasing hormone agonists ("GnRHa") for purposes of preventing progression of pubertal development, and hormonal interventions such as testosterone and estrogen administration. These treatment options are based on robust research and clinical experience, which consistently demonstrate safety and efficacy.

49. Clinical practice guidelines have been published by several long-standing and well-respected medical bodies: the World Professional Association for Transgender Health (WPATH) and the Endocrine Society (Coleman, et al., 2022; Coleman, et al., 2012; Hembree, et al., 2017; Hembree, et al., 2009), as well as the UCSF Center for Excellence in Transgender Health (Deutsch

(ed.), 2016). The clinical practice guidelines and standards of care published by these organizations provide a framework for treatment of gender dysphoria in adolescents.

50. WPATH has been recognized as the standard-setting organization for the treatment of gender dysphoria since its founding in 1979. The most recent WPATH Standards of Care (SOC 8) were published in 2022 and represent expert consensus for clinicians related to medical care for transgender people, based on the best available science and clinical experience (Coleman, et al., 2022).

51. The purpose of the WPATH Standards of Care is to assist health providers in delivering necessary medical care to transgender people, to maximize their patients' overall health, psychological well-being, and self-fulfillment. The WPATH Standards of Care serve as one of the foundations for the care provided in my own clinic.

52. The WPATH SOC 8 is based on rigorous review of the best available science and expert professional consensus in transgender health. International professionals were selected to serve on the SOC 8 writing committee. Recommendation statements were developed based on data derived from independent systemic literature reviews. Grading of evidence was performed by an Evidence Review Team which determined the strength of evidence presented in each individual study relied upon in the document (Coleman, et al., 2022).

53. The previous version (SOC 7), published in 2012 (Coleman, et al., 2012), was the most recent version at the time of the adoption of Florida Administrative Code, 59G-1.050(7) (the "Challenged Exclusion"). SOC 7 was similar to SOC 8 in the basic tenets of management for transgender adolescents and adults; however, SOC 8 further reinforces these guidelines with data published since the release of SOC 7.

54. In addition, the Endocrine Society is a 100-year-old global membership organization representing professionals in the field of adult and pediatric endocrinology. In 2017, the Endocrine Society published clinical practice guidelines on treatment recommendations for the medical management of gender dysphoria, in collaboration with Pediatric Endocrine Society, the European Societies for Endocrinology and Pediatric Endocrinology, and WPATH, among others (Hembree, et al, 2017).

55. The Endocrine Society Clinical Guidelines were developed through rigorous scientific processes that "followed the approach recommended by the Grading of Recommendations, Assessment, Development, and Evaluation group, an international group with expertise in the development and implementation of evidence-based guidelines." The guidelines affirm that patients with gender dysphoria often must be treated with "a safe and effective hormone regimen that will (1) suppress endogenous sex hormone secretion determined by the person's genetic/gonadal sex and (2) maintain sex hormone levels within the normal range for the person's affirmed gender." (Hembree, et al., 2017).

56. The AAP is the preeminent professional body of pediatricians in the United States, with over 67,000 members. The AAP endorses a commitment to the optimal physical, mental, and social health and well-being for youth. The 2018 policy statement titled *Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents* further lends support to the treatment options outlined in the WPATH Standards of Care and the Endocrine Society's Clinical Practice Guidelines (Rafferty, et al., 2018).

57. Aside from the AAP, the tenets set forth by the Endocrine Society Clinical Practice Guidelines and the WPATH Standards of Care are supported by the major professional medical and mental health associations in the United States, including the American Medical Association,

the American Psychological Association, the American Psychiatric Association, and American Academy of Family Physicians, among others (e.g., AMA, 2019; American Psychological Association, 2015; Drescher, et al., 2018 (American Psychiatric Association); Hembree, et al., 2017 (Endocrine Society); Klein, et al., 2018 (AAFP); National Academies, 2020; WPATH, 2016).

58. As a board-certified pediatric endocrinologist, I follow the Endocrine Society Clinical Practice Guidelines and the WPATH Standards of Care when treating my patients.

E. TREATMENT PROTOCOLS FOR GENDER DYSPHORIA

59. Undergoing treatment to alleviate gender dysphoria is commonly referred to as a transition. The transition process in adolescence typically includes (i) social transition and/or (ii) medications, including puberty-delaying medication and hormone therapy. The steps that make up a person's transition and their sequence will depend on that individual's medical and mental health needs and decisions made between the patient, family, and multidisciplinary care team.

60. There are no medications considered for transition until after the onset of puberty. Puberty is a process of maturation heralded by production of sex hormones—testosterone and estrogen—leading to the development of secondary sex characteristics. Secondary sex characteristics include testosterone-induced effects such as deepening of the voice, muscular changes, facial and body hair, and estrogen-induced effects such as breast development. There is diversity in the age of pubertal onset; however, most adolescents begin puberty between ages 10 and 12 years.

61. Gender exploration in childhood is expected and healthy. The majority of prepubertal children exploring their gender do not develop gender dysphoria and are not expected to become transgender adolescents or adults. In contrast, data and personal experience shows that

children whose gender dysphoria persists into adolescence are highly likely to be transgender (van der Loos, et al., 2022). Some individuals in this field misinterpret older studies showing that a large percentage of children diagnosed with gender identity disorder did not grow up to be transgender (e.g., GAPMS Memo at 14; Attachment D (Cantor) to GAPMS Memo at 6-9). Those studies include children who would not fulfill the current diagnostic criteria for gender dysphoria and, in any case, have no relevance to this case because no medications are prescribed to prepubertal children.

62. Puberty-delaying medication and hormone-replacement therapy—both individually and in combination—can significantly improve a transgender young person's mental health. These treatments allow for a physical appearance more closely aligning with gender identity and decreases the likelihood that a transgender young person will be incorrectly identified with their assigned sex, further alleviating their gender dysphoria, and bolstering the effectiveness of their social transition.

63. At the onset of puberty, adolescents begin to experience the onset of secondary sex characteristics. Adolescents with differences in gender identity may have intensification of gender dysphoria during this time due to development of secondary sex characteristics incongruent with gender identity. Persistence or intensification of gender dysphoria as puberty begins is used as a helpful diagnostic tool as it becomes more predictive of gender identity persistence into adolescence and adulthood (de Vries, et al., 2012).

i. Treatment with puberty-delaying medications

64. Adolescents diagnosed with gender dysphoria who have entered puberty (Tanner Stage 2) may be prescribed puberty-delaying medications (GnRHa) to prevent the distress of developing permanent, unwanted physical characteristics that do not align with the adolescent's

gender identity. Tanner Stage 2 refers to the stage in puberty whereby the physical effects of testosterone or estrogen production are first apparent on physical exam. Specifically, this is heralded by the onset of breast budding in an individual assigned female at birth, or the onset of testicular enlargement in an individual assigned male at birth. For individuals assigned male at birth, Tanner Stage 2 typically occurs between age 9-14, and for those assigned female at birth between age 8-12.

65. The treatment works by pausing endogenous puberty at whatever stage it is at when the treatment begins, limiting the influence of a person's endogenous hormones on their body. For example, a transgender girl will experience no progression of physical changes caused by testosterone, including facial and body hair, an Adam's apple, or masculinized facial structures. And, in a transgender boy, those medications would prevent progression of breast development, menstruation, and widening of the hips (Coleman, et al., 2022; de Vries, et al., 2012; Deutsch (ed.), 2016; Hembree, et al., 2017; Rosenthal, 2014).

66. GnRHa have been used extensively in pediatrics for several decades. Prior to their use for gender dysphoria, they were used (and still are used) to treat precocious puberty. GnRHa work by suppressing the signal hormones from the pituitary gland (luteinizing hormone [LH] and follicle stimulating hormone [FSH]) that stimulate the testes or ovaries to produce sex hormones. Upon discontinuation of GnRHa, LH and FSH production resume and puberty will also resume.

67. GnRHa have no long-term implications on fertility. In transgender youth, it is most typical to use GnRHa from the onset of puberty (Tanner Stage 2) until mid-adolescence. While treating, the decision to continue treatment will be continually evaluated. Should pubertal suppression no longer be desired, GnRHa would be discontinued, and puberty would re-commence.

68. Prior to initiation of GnRHa, providers counsel patients and their families extensively on potential benefits and risks. Designed benefit of treatment is to reduce the risk of worsening gender dysphoria and mental health deterioration. More specifically, use of GnRHa in transmasculine adolescents allows for decreased chest development, reducing the need for breast binding and surgical intervention in adulthood. For transfeminine adolescents GnRHa limits facial and body hair growth, voice deepening, and masculine bone structure development, which greatly reduce distress both at the time of treatment and later in life and reduce the need for later interventions such as voice therapy, hair removal, and facial feminization surgery.

69. The goal in using GnRHa is to minimize the patient's dysphoria related to progression of puberty and allow for later initiation of puberty consistent with gender identity. When a patient presents to care, the provider assesses the patient's pubertal stage, pubertal history, and individual needs. A patient may present prior to the onset of puberty (Tanner Stage 1), at the onset of puberty (Tanner Stage 2), or further along in puberty (Tanner Stages 3-5). The pubertal stage and individual needs of the patient then direct conversations regarding care options. A patient at Tanner Stage 2 may benefit from GnRHa, while an older patient who has completed puberty may benefit from pubertal initiation with hormones, as described below. I have observed that providing individualized care based on individual patient characteristics, using the WPATH Standards of Care as the foundation of this care, provides significant benefit to patients, minimizes gender dysphoria, and can eliminate the need for surgical treatments in adulthood.

70. As an experienced pediatric endocrinologist, I treat patients with these same medications for both precocious puberty and gender dysphoria and in both cases the side effects are comparable and easily managed. And for both patient populations the risks are greatly outweighed by the benefits of treatment.

71. In addition, I regularly prescribe GnRHa for patients who do not meet criteria for precocious puberty but who require pubertal suppression. Examples include patients with disabilities who are unable to tolerate puberty at the typical age due to hygienic concerns; minors with growth hormone deficiency who despite growth hormone treatment will have a very short adult height; and young women with endometriosis. As with gender dysphoria, the prescription of GnRHa to treat these conditions is "off-label," yet it is widely accepted within the field of endocrinology and not considered experimental. The same holds true for other common medications used in pediatric endocrinology: using metformin for weight loss; growth hormone for short stature not caused by growth hormone deficiency; countless medications used to control type 2 diabetes which have an adult indication but whose manufacturers have not applied for a pediatric indication.

ii. Treatment with hormone therapy

72. In mid-adolescence, the patient, their parents, and the patient's care team may discuss the possibility of beginning the use of testosterone or estrogen. In my practice we discuss these treatments for a patient who is currently receiving GnRHa, or patients who have already gone through their endogenous puberty and either did not have access to, desire, or elect for GnRHa treatment. In adult patients, use of GnRHa is uncommon, but rather medical decisions are focused more on testosterone or estrogen therapy.

73. These hormone therapies are used to treat gender dysphoria in adolescents and adults to facilitate development of sex-specific physical changes congruent with their gender identity. For example, a transgender man prescribed testosterone will develop a lower voice as well as facial and body hair, while a transgender woman prescribed estrogen will experience breast growth, female fat distribution, and softer skin.

74. Under the Endocrine Society Clinical Guidelines and SOC 8, hormone therapy is an appropriate treatment for transgender adolescents with gender dysphoria when the experience of dysphoria is marked and sustained over time, the adolescent demonstrates emotional and cognitive maturity required to provide and informed consent/assent for treatment, other mental health concerns (if any) that may interfere with diagnostic clarity and capacity to consent have been addressed, the adolescent has discussed reproductive options with their provider. SOC 8 also highlights the importance of involving parent(s)/guardian(s) in the assessment and treatment process for minors (Coleman, et al., 2022; Hembree, et al., 2017).

75. Under the Endocrine Society Clinical Guidelines and SOC 8, hormone therapy is an appropriate treatment for transgender adults with gender dysphoria when the experience of dysphoria is marked and sustained, other possible causes of apparent gender dysphoria are excluded, any mental and physical health conditions that could negatively impact the outcome of treatment are assessed, the adult has capacity to understand risks and benefits of treatment and provide consent for treatment (Coleman, et al., 2022; Hembree, et al., 2017).

76. Similar to GnRHa, the risks and benefits of hormone treatment are discussed with patients (and families, if the patient is a minor) prior to initiation of testosterone or estrogen. When treated with testosterone or estrogen, the goal is to maintain the patient's hormone levels within the normal range for their gender. Laboratory testing is recommended to ensure proper dosing and hormonal levels. If starting hormonal care after completing puberty, discussion of egg or sperm preservation prior to starting treatment is recommended.

77. Regardless of the treatment plan prescribed, at every encounter with the care team there is a re-evaluation of the patient's gender identity and their transition goals. Should a patient desire to discontinue a medical intervention, the intervention is discontinued. Discontinuation of

GnRHa will result in commencement of puberty. Findings from studies in which participants have undergone comprehensive evaluation prior to gender care show low levels of regret (de Vries, et al., 2011; van der Loos, et al., 2022; Wiepjes, et al., 2018).

F. SAFETY AND EFFICACY OF PUBERTY-DELAYING MEDICATIONS AND HORMONE THERAPY TO TREAT GENDER DYSPHORIA

78. GnRHa, prescribed for delaying puberty in transgender adolescents, is both a safe and effective treatment. Patients under consideration for treatment are working within a multidisciplinary team of providers all dedicated to making informed and appropriate decisions with the patient and family in the best interest of the adolescent. Physicians providing this intervention are trained and qualified in gender identity concerns and childhood growth and development and are participating in this care out of a desire to improve the health and wellness of transgender youth and prevent negative outcomes such as depression and suicide.

79. GnRHa, including injectable leuprolide and implantable histrelin, have rare side effects which are discussed with patients and families prior to initiation. Mild negative effects may include pain at the injection or implantation site, sterile abscess formation, weight gain, hot flashes, abdominal pain, and headaches. These effects can be seen in patients receiving GnRHa for gender dysphoria, or for other indications such as precocious puberty. I counsel patients on maintaining a healthy diet and promote physical activity, and regularly document height and weight during treatment. Nutritional support can be provided for patients at risk for obesity.

80. Risk of lower bone mineral density in prolonged use of GnRHa can be mitigated by screening for, and treating, vitamin D deficiency when present, and by limiting the number of years of treatment based on a patient's clinical course (Rosenthal, 2014). An exceptionally rare but significant side effect, increased intracranial pressure, has been reported in six patients (five

treated for precocious puberty, one for transgender care), prompting an FDA warning in July 2022 (AAP, 2022). These cases represent an extremely small fraction of the thousands of patients who have been treated with GnRHa over decades. Symptoms of this side effect (headache, vomiting, visual changes) are reviewed with families and if they occur the medication is discontinued.

81. GnRHa do not have long-term implications on fertility. This is clearly proven from decades of use in the treatment of precocious puberty (Guaraldi, et al., 2016; Martinerie, et al, 2021). Progression through natal puberty is required for maturation of egg or sperm. If attempting fertility after previous treatment with GnRHa followed by hormone therapy is desired, an adult patient would withdraw from hormones and allow pubertal progression. Assistive reproduction could be employed if needed (T'Sjoen, et al., 2013).

82. Patients who initiate hormones after completing puberty are offered gamete preservation prior to hormonal initiation (Coleman, et al., 2022), but even when not undertaken, withdrawal of hormones in adulthood often is successful in achieving fertility when it is desired (Light, et al., 2014; Knudson, et al., 2017).

83. Discussing the topic of fertility is important, and not specifically unique to treatment of gender dysphoria. Medications used for other medical conditions, such as chemotherapeutics used in cancer treatment, can affect fertility. For all medications with potential impacts on fertility, the potential risks and benefits of both treatment and non-treatment should be reviewed and data regarding risk for infertility clearly articulated prior to the consent or assent of the patient. Risk for fertility changes must be balanced with the risk of withholding treatment.

84. Review of relevant medical literature clearly supports the benefits of GnRHa treatment on both short-term and long-term psychological functioning and quality of life (e.g., Achille, et al., 2020; Carmichael, et al., 2021; Costa, et al., 2015; de Vries, et al., 2014; de Vries,

et al., 2011; Kuper, et al., 2020; Turban, et al., 2020b; van der Miesen, et al., 2020). For example, a 2014 long-term follow-up study following patients from early adolescence through young adulthood showed that gender-affirming treatment allowed transgender adolescents to make age-appropriate developmental transitions while living as their affirmed gender with positive outcomes as young adults (de Vries, et al., 2014).

85. In my own practice, adolescent patients struggling with significant distress at the onset of puberty routinely have dramatic improvements in mood, school performance, and quality of life with appropriate use of GnRHa. Side effects encountered are similar to those seen in other patients treated with these medications and easily managed.

86. Hormone therapy (testosterone or estrogen) is prescribed to older adolescents with gender dysphoria. As is the case with GnRHa, the need for hormone therapy is not unique to transgender adolescents. Patients with conditions such as delayed puberty, hypogonadism, Turner Syndrome, Klinefelter Syndrome, agonism, premature ovarian failure, and disorders of sex development all require treatment with these hormones, often times starting in adolescence and continuing lifelong. Without testosterone or estrogen treatment, these patients would be unable to progress through puberty normally, which would have serious medical and social consequences. Whether used in adolescents to treat gender dysphoria, or to treat any of these other conditions, testosterone and estrogen are prescribed with a goal to raise the testosterone or estrogen level into the normal male or female range for the patient's age. Careful monitoring of blood levels and clinical progress are required. Side effects are rare, but most often related to overtreatment, which can be minimized with this monitoring. Additionally, side effects are considered, discussed, and easily managed in all individuals needing hormone therapy regardless of the diagnosis necessitating these medications.

87. Venous thromboembolism (blood clotting) is a known side effect of estrogen therapy in all individuals placed on it including transgender women. Risk is increased in old age, in patients with cancer, and in patients who smoke nicotine. This side effect is mitigated by careful and accurate prescribing and monitoring. In my career, no patient has suffered a thromboembolism while on estrogen therapy.

88. Treatment of gender dysphoria with testosterone or estrogen is highly beneficial for both short-term and long-term psychological functioning of adolescents with gender dysphoria and withholding treatment from those who need it is harmful (e.g., Achille, et al., 2020; Allen, et al., 2019; Chen, et al., 2023; de Lara, et al., 2020; de Vries, et al., 2014; Grannis, et al., 2021; Green, et al., 2022; Kaltiala, et al., 2020; Kuper, et al., 2020). To highlight examples, Green et al. (2022) describes that gender-affirming hormone therapy is correlated with reduced rates of depression and suicidality among transgender adolescents. Turban et al. (2022) documented that access to gender-affirming hormone therapy in adolescence is associated with favorable mental health outcomes in adulthood, when compared to individuals who desired but could not access hormonal interventions.

89. I treat many patients with gender dysphoria GnRHa, testosterone, and estrogen. Side effects related to these medications is very rare and can be treated with dose adjustment and/or lifestyle changes.

90. The efficacy of hormone treatment in transgender adults is similarly robust. At least 11 longitudinal studies document improvement in various mental health parameters including depression, anxiety, self-confidence, body image and self-image, general psychological functioning (e.g., Colizzi, et al., 2013; Colizzi, et al., 2014; Corda, et al., 2016; Defreyne, et al.,

2018; Fisher, et al., 2016; Heylens, et al., 2014; Keo-Meier, et al., 2015; Manieri, et al., 2014; Motta, et al., 2018; Oda, et al., 2017; Turan, et al., 2018).

91. In sum, the use of GnRHa and hormones in adolescents, and hormones in adults for the treatment of gender dysphoria is the current standard of care and certainly not experimental. This is due to robust evidence of safety and efficacy. The sum of the data supports the conclusion that treatment of gender dysphoria with these interventions promotes wellness and helps to prevent negative mental health outcomes, including suicidality in adolescent and adult age groups. The data to support these interventions are so strong that withholding such interventions would be negligent and unethical.

G. HARMS ASSOCIATED WITH PROHIBITING AND DISCONTINUING TREATMENT

92. Unwarranted restrictions of gender-affirming care, like the Emergency Rule promulgated by the Attorney General, for adolescents and adults is likely to have devastating consequences.

93. I am concerned that the Attorney General's Emergency Rule might lead to a staggering increase in mental health problems, including suicidality, for transgender Missourians. One study which highlights my concern is a study of over 21,000 patients who report ever desiring gender-affirming hormone care. When comparing those who were able to access this care to those desiring but never accessing care, those able to access care had lower odds of suicidality within the past year. In addition, those individuals where were able to access care in adolescence had lower odds of suicidality compared to those waiting to access until adulthood (Turban, et al., 2022).

94. Even more concerning is a situation where patients currently receiving care and thriving would be forced to discontinue this care.

H. CRITICISMS OF THE ATTORNEY GENERAL'S EMERGENCY RULE

95. The Attorney General's Emergency Rule is a threat to the health and wellness of transgender persons in Missouri. As a practicing physician, I am aware of no other medical condition in which a state dictates to health professionals how they must assess, obtain consent, and treat a particular condition. Concerningly, the Rule goes further by dictating the assessment and treatment of gender dysphoria in a way that is not in-keeping with current evidence-based standards of care. If enacted, the Rule would force medical professionals to treat patients with gender dysphoria using methods which are inconsistent and even in opposition to best practice. In so doing, the Rule would force health care professionals to treat patients in a way that they would knowingly be causing harm. This is antithetical to the Hippocratic Oath that all physicians take upon graduation from medical school.

96. Additionally, when considering the extremely onerous requirements suggested in this Rule, it is clear to any gender-affirming care provider that the Rule is written to essentially prohibit all gender-affirming care in the State of Missouri. For example, asking a patient to attend 15 sessions over 18 months with a mental health provider in order to diagnose gender dysphoria, while completely arbitrary, is also not practical for a transgender person in distress for a variety of reasons. A mental health provider who has, for example, diagnosed gender dysphoria after three sessions would no longer be able to bill for subsequent sessions because there is no further mental health question to address. Financially insecure patients would struggle disproportionately to afford 18 months of unnecessary therapy. The mental health system of Missouri is likely not capable of absorbing thousands of unneeded mental health visits to satisfy this Rule, while other individuals with actual mental health needs are unable to find appointments. In summary, gender dysphoria, like any other medical problem, requires individualized assessment and treatment.

Shoehorning all transgender people into a set of arbitrary rules is not only mean-spirited but is malpractice.

97. The Attorney General's rule is completely divorced from how medicine is practiced, but specifically contrary to how gender dysphoria is assessed and treated. To be clear, the assessment and management of gender dysphoria, for both adolescents and adults, is a serious undertaking best performed by health providers with knowledge and experience in working with the transgender population. The World Professional Association for Transgender Health suggests that health care professionals assessing transgender patients are licensed by their statutory body, hold a master's degree at minimum, and are able to identify co-existing mental health conditions or other psychological concerns, and distinguish these from gender dysphoria. These professionals should be able to assess capacity to consent in adult patients, and assent in adolescent patients. Transgender individuals should meet diagnostic criteria prior to initiating treatments. These recommendations for assessment and treatment are clearly outlined in the WPATH Standards of Care, Version 8.

98. Despite the overall concerns over the Attorney General's Rule, there are specific items which merit specific discussion.

99. Part C of the Rule suggests that no treatment for gender dysphoria is allowed without three years of medically documented gender dysphoria. This criterion appears to be completely arbitrary. The clinical criteria for gender dysphoria requires 6 months of symptoms to make a diagnosis. The Attorney General's document cites Coleman et al. in regard to Part C, which speaks to the importance of establishing a "long-lasting and intense pattern" of gender dysphoria prior to initiating treatment for children. The citation makes no reference to adult care, and also makes no reference to 3 years. The concern here is that transgender individuals who are good

candidates for treatment do not need to wait an arbitrary amount of time to receive the care they need based on the Emergency Rule. These decisions are best made by the patient and their care team.

100. Part D of the Rule comes across as the most arbitrary and nonsensical portion of the Attorney General's Rule. As discussed above, asking a patient to attend 15 sessions over 18 months with a mental health provider in order to diagnose gender dysphoria is completely arbitrary and not necessary for the vast majority of patients. This Rule would force patients diagnosed with gender dysphoria after, say, three sessions to pay for and attend 12 mental health sessions in which they have no mental health needs to discuss. Additionally, mental health providers cannot bill for services which are not needed. Asking patients to receive unnecessary health care is impractical and also demeaning to transgender individuals. Citation 32 in the Rule (to support the Section D required arbitrary appointment history) is a garbled collection of quotes and references which do not seem to be related to requiring 15 mental health sessions over 18 months in order to diagnose gender dysphoria.

101. Part E of the Rule is particularly concerning. Part E states that any psychiatric symptoms from existing mental health comorbidities have been treated and resolved. What does this mean? It means that a person with depression and gender dysphoria must have documented resolution of their depression in order to start treatment for gender dysphoria. This is not a realistic expectation, and is, in my opinion, the most heartless section of the rule. Gender dysphoria is a challenging condition leading to significant distress, including anxiety and depression. WPATH criteria suggest that comorbid mental health conditions are in reasonable control. It is expected that a patient with gender dysphoria may suffer from depression or anxiety, but if in reasonable control, these comorbidities will not interfere with the diagnosis of gender dysphoria. Asking for

a patient to have no other mental health concerns in order to receive treatment for gender dysphoria shows that the author of this Rule either has no understanding of gender dysphoria or is intentionally writing the Rule to bar all treatment for gender dysphoria in Missouri.

102. Parts G and H refer to the idea that gender dysphoria is caused by social media addiction or social contagion. To be clear, these assertions are not based in evidence, but rather are talking points of anti-transgender advocates. Additionally, the Rule provides no guidance on how one would assess for so-called social media addiction or social contagion.

103. Parts I and J ask providers to track "adverse effects" from imitation of treatment for 15 years. It is unclear how the Rule suggests this to be done. It is best practice that all physicians write progress notes on all patients seen for all medical conditions. These notes include progress on treatments, and also adverse effects. This standard medical documentation should arguably serve to satisfy this part of the Rule. If the Rule is asking for a new statewide tracking system to be created, this would be evidence that the Attorney General is treating gender dysphoria as completely different from all other medical conditions treated by physicians in Missouri, as I am aware of no medical conditions where providers have a mandate to track adverse effects in this way. Part J specifically calls for data maintenance readily accessible for systemic study. This part does not provide suggestions on how this data maintenance is supposed to be done, and how providers are supposed to fund this project. Typically, maintenance of data as described in this rule is done during a research study which requires significant funding. The Rule is not proposing a research study, but instead data maintenance which, if over-and-above standard medical documentation, would require funding and infrastructure not discussed in the Rule.

104. Part K of the rule outlines details regarding informed consent. Informed consent is essential in medicine. Medical providers become skilled in explaining risks and benefits of

interventions so each patient can make the best medical decision for their situation. It is common for surgeons to ask patients to sign a consent form prior to surgery. What is not common is requiring signed documentation of consent for prescribed medical treatments. What is even more extreme is requiring this signed documentation over and over again. Part K is suggesting that gender-affirming care is so different than any other medical care that it requires a completely different consent process to any other prescribed treatment, and that this consent process must be documented repeatedly.

105. Finally, Part B of the Rule mandates how informed consent is provided prior to providing gender-affirming care. The process of informing patients about the risks and benefits of medical interventions is a routine part of medical care. In most cases, this consists of a conversation between the provider and patient, which is tailored to the patient's individual care plan. This Rule proposes that providers will be mandated to provide misleading or false information when discussing risks and benefits of therapy and obtaining informed consent.

106. Item 1 falsely asserts that medications used to treat gender dysphoria are experimental. This is false. Hormonal management of gender dysphoria is well studied, safe and effective, with all major American medical organizations agreeing on the basic tenants of care. Item 1 also makes note that the use of pubertal suppression and hormones for treatment of gender dysphoria are not approved by the FDA. This is misleading if fuller context is not provided. All of the drugs used to treat gender dysphoria, are in fact FDA approved, but when used to treat gender dysphoria are being used off label, similar to many other safe and effective medications used across the country every day.

107. Items 2 and 7 provide statements about medical authorities in Europe. Gender-affirming care is still available in the countries mentioned, and these statements as written are misleading.

108. Items 3 through 11 suggest that health care providers must offer out-of-context or misleading summaries from cherry-picked studies or articles chosen by opponents of gender-affirming care. One would wonder as to why the authors of this Rule do not also include the overwhelming data supporting the safety and efficacy of gender-affirming care. The answer seems to be that the authors of the Rule are not interested in patients making a fully informed decision on care, but rather in eliminating access to gender-affirming care in Missouri.

109. Specifically, Item 3 is misleading as to the function of the U.S. Agency for Healthcare Research and Quality and the purpose of the cited Topic Brief. The Topic Brief was undertaken not to assess all elements of gender-affirming care, but rather to determine whether the agency would produce an evidence report on the topic of treatment of gender dysphoria in youth. Including this in a pediatric informed consent conversation would be misleading, and also is completely irrelevant to adult patients.

110. Item 4 is misleading, in that the referenced article, while citing increased mortality among transgender people, does not imply that the cause of that mortality is gender-affirming care.

111. Item 5 relates to data of persistence of gender dysphoria in young children. This is not relevant. Children who are prepubertal are not eligible for medical intervention. Adolescents who have persistence of gender dysphoria into puberty are much more likely to persist in their transgender identity, and even so, non-permanent treatment with GnRHa is provided in order to delay medical decision making on hormonal care.

112. Item 6 provides a quote from an opinion piece (not a scientific study), which therefore does not belong in an informed consent discussion.

113. Item 8 discusses a review related to treatment options for transgender women. This is not a study, but a review of studies, in which the authors felt evidence to be insufficient. This is contrary to the prevailing interpretation of the body of literature.

114. Item 9 refers to a study by Dr. Lisa Littman, which introduces a hypothesized condition she coins "Rapid Onset Gender Dysphoria." This hypothesis was formed solely through the analysis of online parental survey data and did not collect data from adolescents; the hypothesis is not tested in this article. The study, which has been heavily criticized, required post-publication corrections, and as the correction explains Rapid Onset Gender Dysphoria is not a formal mental health diagnosis. Including discussion of this article in an informed consent discussion is misleading. Item 10, a random quotation from a different article which does not seem to have clear relevance to a patient with gender dysphoria making a decision about their own medical care.

115. Item 11 presents data from an extremely biased sampling of parents who are members of an anti-transgender website called parentsofrogdkids.com. Presenting this data in an informed consent discussion is not appropriate because it is not backed by any science.

116. Item 12 is misleading as written. An exceptionally rare side effect of GnRHa, when used for any reason is increased intracranial pressure. This has been reported in six patients (five treated for precocious puberty, one for transgender care) prompting an FDA warning in July 2022. These cases represent an extremely small fraction of the thousands of patients who have been treated with GnRHa over decades. Symptoms of this side effect (headache, vomiting, visual changes) are reviewed with families and if they occur the medication is discontinued.

117. Item 13 references a hypothetical concern that somehow use of GnRHa has negative consequences with respect to brain development. The Rule references opinions from known opponents of GnRHa use but does not cite any actual studies documenting that this concern is valid. I have difficulty understanding the basis for the argument. For example, when considering children with naturally occurring delayed puberty, I find no published evidence of negative consequences to brain development compared with children with normally timed puberty. Likewise, there is no published evidence in support of this concern in transgender adolescents prescribed GnRHa that I can find, nor which has been offered by the citations in the document.

118. Item 14 and Item 20 are also misleading and based in a flawed understanding of the natural history of gender dysphoria. It is the case that the majority of prepubertal children exploring their gender do not develop gender dysphoria and are not expected to become transgender adolescents or adults. In contrast, children whose gender dysphoria persists into adolescence are highly likely to be transgender (van der Loos, et al., 2022). Therefore, the fact that a large percentage of children who have severe and persisting gender dysphoria into adolescence, who meet criteria for GnRHa treatment, will continue to identify as transgender in later adolescence is expected.

119. Item 15 provides misinformation and presents cherry-picked findings. The review in question was performed by Baker et al. and not by the Endocrine Society. This systematic review of 20 studies found evidence that gender-affirming hormone therapy may be associated with improvements in QOL scores and decreases in depression and anxiety symptoms among transgender people in addition to the finding included in this Rule.

120. Item 16 is misleading. The article referenced states, "this paper is explicitly not intended to evaluate what is recommended in terms of the best use of GnRHa, based on evidence

and expert opinion." It was also published in 2019 and therefore does not include review of literature published in the past 4 years.

121. Item 17 does not reference a study, but rather an opinion piece by Dr. Hruz, a known opponent of gender-affirming care.

122. Item 18 oversimplifies a complex topic: growth and bone density in transgender youth. I have addressed these issues in my report (see paragraph 79).

123. Regarding item 19, while there is much still to learn about the etiology of gender identity diversity, much is known, as outlined extensively in this report. More research is always welcome and important in every field of medicine, gender medicine included. However, the current evidence base clearly supports the use of gender-affirming care.

124. Item 21 not only misstates the Endocrine Society's statement but is conflating association with causation. Individuals with less severe gender dysphoria in childhood are of course less likely to make a social transition, and less likely to be transgender adults. Social transition, itself, is not the cause of persisting transgender identity. Item 22 is misleading because it is irrelevant. No medical interventions are prescribed prior to puberty.

125. Item 23 describes important aspect of any informed consent process. Informing patients what medications effects are reversible and non-reversible are discussed with patients currently.

III. CONCLUSION

126. In summary, prohibiting access or severely limiting access to gender-affirming care, as the Attorney General's Rule does, runs counter to evidence-based best practices and standards of care for the treatment of gender dysphoria in adolescence and adulthood.

127. Gender dysphoria is a challenging condition, but it is treatable through individualized assessment and treatment, which may include social transition, psychotherapy, pubertal suppression, and hormonal therapy. These treatments are not experimental and are supported by all major medical bodies in the field of transgender medicine and pediatrics.

128. Lack of access to these treatments will result in worse outcomes for countless individuals in Missouri. Furthermore, severely restricting or essentially prohibiting access to evidence-based treatment for gender dysphoria, as the Attorney General's Rule does, sends a message that transgender people are not valid and should be stigmatized.

129. In my own clinical practice in Michigan, I have seen an influx of patients from states banning medically proven treatments for gender dysphoria who report not feeling safe living in the community that they have always called home. Adult patients, and parents who love and support their transgender children, have described themselves as "refugees" in their own country, moving to avoid discriminatory laws which they know would clearly harm their health or the health of their child.

130. Banning access to effective treatment for gender dysphoria will not eliminate transgender people, but will, unfortunately, lead to an increase in mental health problems and suicidality in an already vulnerable population.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 23rd day of April 2023.

Daniel Shumer, M.D.

FURTHER AFFIANT SAYETH NOT.

State of Michigan)
)
County of Washtenaw)

On April 23, 2023, before me personally appeared, Daniel Shumer, to me known, and who being first duly sworn by me states that the foregoing is true and correct to the best of his knowledge, information, and belief.

Daniel Shumer, M.D.

IN TESTIMONY WHEREOF, I have set my hand and affixed my official seal on the day and year first written above.

Notary Public

AMANDA FLETCHER
NOTARY PUBLIC - STATE OF MICHIGAN
County of Washtenaw
My Commission Expires 08/12/2029
Acting in the County of Washtenaw